DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 377TH AIR BASE WING (AFMC)

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MEMORANDUM FOR MR. BENITO GARCIA, CHIEF
HAZARDOUS & RADIOACTIVE MATERIALS BUREAU
NEW MEXICO ENVIRONMENT DEPARTMENT
PO BOX 26110
SANTA FE NM 87502

4 November 1997

FROM: 377 ABW/EMR
2000 Wyoming Blvd SE, Ste D-6
Kirtland AFB NM 87117-5659

SUBJECT: Quarterly Report

1. We are submitting the quarterly report for the period 1 July 1997 through 30 September 1997, as required by the conditions of our RCRA Part B Permit, Module IV, Section E.

2. Please contact me at (505) 846-0053 if you have any questions.

CHRISTOPHER B. DEWITT, R.P.G.
Chief, Restoration Branch
Environmental Management Division

Attachment:
Quarterly Report

cc:
NMED-HRMB (Mr. Pullen)
NMED-GWPB (Ms. Jacobs)
EPA Region 6 (Ms. Morlock)
B&RE (Mssrs. Clark & Donnelly)
IT Corp. (Ms. Jercinovic)
FWE (Mr. Foley)
AFCEE/ERDM (Mr. Arnold)
USACE Omaha (Mr. Rowe)

KAFB1902

Quarterly Report

Kirtland AFB, New Mexico
July 1, 1997 through September 30, 1997

I. INTRODUCTION

A. Pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), as amended by RCRA Statute (42 U.S.C. 6701, et seq.), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), a permit has been issued to Kirtland AFB to operate a hazardous waste disposal facility (ID No. NMD9570024423, October 10, 1990).

B. This Quarterly Report is consistent with the terms and conditions of the permit found under HSWA Module IV, Section E.

II. DESCRIPTION OF WORK COMPLETED

A. The following is a list of solid waste management units (SWMUs) and Installation Restoration Program (IRP) sites investigated under the IRP and the Environmental Compliance Program (ECP). Also listed are the site descriptions, relative risk, and status as of this quarter.

SUMMARY OF KIRTLAND AFB IRP & ECP SWMU SITES

SWMU No.	ECP No.	IRP No.	APPX No.	DESCRIPTION	REL. RISK	STATUS
6-1		LF-01	I	Landfill No. 1	High	RFI
6-2		LF-02	I	Landfill No. 2	High	RFI/ICM
6-3		LF-07	II	Landfill No. 3	***Low***	RFI
6-4		LF-08	I	Landfill No. 4,5,6	High	RFI
	LF-268			Active Landfill		
6-7		LF-18	II	Landfill A	***Low***	RFI
6-8		LF-15	II	Landfill B	***Low***	RFI
6-10		LF-09	III	Abandoned Landfill	Low	RFI
6-11		LF-44	II	Fill Area SE of Sewage Lagoons	***Low***	RFI
*6-14		ST-51	III	Sewage Effluent Line	Low	RFI
6-15		LF-45	II	Unnamed Dump	***Low***	RFI
6-16		FT-13	I	Kirtland Fire Training Area	***Low***	RFI/ICM
**6-19		OT-29	II	EOD Range	Medium	RFI
6-22		OT-46	I	Lake Christian	High	RFI
6-24		WP-16	I	Manzano Sewage Treatment Facility	***Low***	RFI/ICM
6-29		LF-20	I	Manzano Landfill	***Low***	RFI
6-30		RW-06	IV	Radioactive Burial 11	Medium	RFI/ICM
6-31		OT-28	I	McCormick Ranch Range	***Medium***	RFI
6-32		FT-14	I	Manzano Fire Training Area	***Low***	RFI/ICM
*6-A1		RW-21	IV	Radioactive Burial 7	***NR***	RFI/ICM
*6-A2		RW-04	IV	Radioactive Holding Tank 4	***NR***	RFI/ICM
		RW-05	IV	Radioactive Holding Tank 5	***NR***	RFI/ICM
		RW-17	IV	Radioactive Holding Tank 6	***NR***	RFI/ICM
		RW-19	IV	Radioactive Holding Tank 8	***NR***	RFI/ICM
		RW-23	IV	Radioactive Holding Tank 9	***NR***	RFI/ICM
8-5	ST-201		II	Oil/Water Separator, Bldg 255	Medium	RFI
*8-6		WP-47	II	Silver Recovery Unit	***NR***	RFI/ICM
8-13		ST-71	II	Bldg 100/1001 Oil/Water Separator	***NE***	RFI
8-26	ST-242		II	2 Oil/Water Separators, Bldg 1063	Medium	RFI
	ST-243					
8-28	ST-250		II	Oil/Water Separator, Bldg 20338	Medium	RFI
8-29	ST-251		II	Oil/Water Separator, Bldg 20344	Medium	RFI

SWMU No.	ECP No.	IRP No.	APPX No.	DESCRIPTION	REL. RISK	STATUS
8-31	ST-252		II	2 Oil/Water Separators, Bldg 20348	Medium	RFI
	ST-253					
8-35	ST-214		II	Waste Oil Storage Tank, Bldg 471	Medium	RFI
8-41	ST-274		III	Waste Battery Storage Area, Bldg 20423	Low	RFI
8-47	ST-261		II	Oil/Water Separator, Bldg 20423	Medium	RFI
8-49		SS-61	III	Fuel Shop Wst Batt Strg Area, Bldg 20677	Low	RFI
8-53	ST-335		III	Pnt Shop Flr Drn to Rock Bed, Bldg 20681	Low	RFI
8-55	ST-262		II	Oil/Water Separator, CE Bldg 20698	Medium	RFI
8-58	ST-321		III	Battery Storage Area, Bldg 57007	Low	RFI
9-4	ST-276		III	Waste Accumulation Area, Bldg 617	Low	RFI
9-14	ST-270		II	Buried Caustic Drain Line, Bldg 617	Medium	RFI
9-15	ST-271		II	Neutralization Pit, Bldg 617	Medium	RFI
9-16	ST-272		II	Evaporation/Infiltration Pond, Bldg 617	Medium	RFI
9-20		SS-62	III	Bldg 909 Waste Accumulation Area	Low	RFI
10-1			III	Sanitary Sewer System	Low	RFI
A	ST-278			Sanitary Sewer System A		
B	ST-279			Sanitary Sewer System B		
C	ST-280			Sanitary Sewer System C		
D	ST-281			Sanitary Sewer System D		
E	ST-282			Sanitary Sewer System E		
F	ST-283			Sanitary Sewer System F		
G	ST-284			Sanitary Sewer System G		
H	ST-327			Manzano Sanitary Sewer System		
10-2			III	Storm Sewer System	Low	RFI
A	ST-325			Corrosion Control Shop, Bldg 482		
B	ST-220			Paint Shop, Bldg 1001, Storm Drain		
C	ST-220			Plating & Anodizing, Bldg 1001, Storm Drain		
D	ST-329			Propulsion Branch Flr Drns, Bldg 336		
E		SS-63	III	Jet Engine Test Cell		
F	ST-325			H-3/H-53, Phase Dock, Bldg 1000 Flr Drns		
G	ST-331			C-130 Mntnc Shop, Bldg 1009, Strm Sewer		
H	ST-285			West Storm Sewer System		
I	ST-286			East Storm Sewer System		
10-3	ST-249		II	Waste Oil Storage Tank, Bldg 20205	Medium	RFI
10-7			II	41 Oil/Water Separators, Holding Tanks, Sewage Ejector Units, Catch Basins, Sediment Traps, and Area Drains	Medium	RFI
A	ST-205			Oil/Water Separator, Bldg 333		
	ST-206			3 Oil/Water Separators, Bldg 336		
	ST-207					
	ST-208					
	ST-212			Oil/Water Separator, Bldg 381		
	ST-217			Oil/Water Separator, Bldg 481		
	ST-218			Oil/Water Separator, Bldg 482		
	ST-222			Oil/Water Separator, Bldg 1031		
	ST-226			Oil/Water Separator, Bldg 1037		
	ST-230			Oil/Water Separator, Bldg 1046		
	ST-234			3 Oil/Water Separators, Bldg 1051		
	ST-235					
	ST-236					
	ST-238			2 Oil/Water Separators, Bldg 1056		
	ST-239					
	ST-246			Oil/Water Separator, Bldg 1070		
	ST-254			Oil/Water Separator, Bldg 20365		
	ST-255			3 Oil/Water Separators, Bldg 20375		
	ST-256					
	ST-257					
	ST-259			Oil/Water Separator, Bldg 20422		
	ST-263			Oil/Water Separator, Bldg 23226		

SWMU No.	ECP No.	IRP No.	APPX No.	DESCRIPTION	REL. RISK	STATUS
	ST-264			Oil/Water Separator, Bldg 30142		
	ST-267			Oil/Water Separator, Bldg 57007		
B	ST-225			Holding Tank, Bldg 1031		
	ST-227			Holding Tank, Bldg 1037		
	ST-231			Holding Tank, Bldg 1046		
	ST-240			Holding Tank, Bldg 1058		
	ST-245			Holding Tank, Bldg 1064		
C	ST-223			Sewage Ejector Unit, Bldg 1031		
	ST-229			Sewage Ejector Unit, Bldg 1043		
	ST-232			Sewage Ejector Unit, Bldg 1046		
D	ST-209			Catch Basin, Bldg 336		
E	ST-204			Sediment Trap, Bldg 333		
F	ST-213			Area Drain, Bldg 381		
	ST-224			Area Drain, Bldg 1031		
	ST-228			Area Drain, Bldg 1040		
	ST-233			Area Drain, Bldg 1046		
	ST-237			Area Drain, Bldg 1051		
10-21			III	44 Septic Systems	Low	RFI
	ST-287			Bldg 525		
	ST-288			Bldg 614		
	ST-289			Bldgs 617/620		
	ST-290			Bldg 619		
	ST-291			Bldg 617		
	ST-292			Bldg 622		
	ST-293			Bldg 37570		
	ST-294			Bldg 633		
	ST-295			Bldg 638		
	ST-296			Bldg 702		
	ST-297			Bldg 707		
	ST-298			Bldgs 730/734		
	ST-299			Bldg 751		
	ST-300			Bldg 20199		
	ST-301			Bldg 20560		
	ST-302			Bldg 20599		
	ST-303			Bldg 20749		
	ST-304			Bldg 20797		
	ST-305			Bldg 28054		
	ST-306			Bldg 28054		
	ST-307			Bldg 30101		
	ST-308			Bldg 37511		
	ST-309			Bldg 37504		
	ST-310			Bldgs 37507/37508/37513		
	ST-311			Plant 1 and Bldg 37501		
	ST-312			Plant 2 and Bldg 37503		
	ST-313			Bldgs 37529/37530		
	ST-314			Bldgs 48056/48059		
	ST-315			Bldg 30102		
	ST-316			Bldgs 57003/57012		
	ST-317			Bldg 57011		
	ST-318			Bldg 37200		
	ST-319			Bldg 37541		
	ST-320			Bldg 20149		
	ST-322			Bldgs 37507/37508/37513		
	ST-323			Bldg 29042		
	ST-324			Bldg 29051		
	ST-330			Bldg 1032		
	ST-333			Bldg 66001		

SWMU	ECP	IRP	APPX	DESCRIPTION	REL.

No.	No.	No.	No.		RISK	STATUS
	ST-342			Bldg 66029		
	ST-343			Bldgs 66000/66008		
	ST-344			Bldg 66042		
	ST-345			Bldg 66006		
	ST-346			Trestle Site Septic Tank		
LF-56		LF-56	II	Landfill D	***Low***	RFI
WP-58		WP-58	II	East Laundry	***High***	RFI
ST-59		ST-59	II	ART Drum	***NE***	RFI/ICM
ST-60		ST-60	II	ART Pit	***Low***	RFI/ICM
ST-64		ST-64	II	COE Vehicle Maintenance Yard	Medium	RFI
SS-65		SS-65	III	Horizontal Dipole Drum Rack	Low	RFI/ICM
ST-66	ST-66		II	Trestle Facility OWS and Pit	***Low***	RFI/ICM
RW-68		RW-68	IV	Rad Dump/Slag Pile and Cratering Area	High	RFI/ICM
SS-69		SS-69	IV	Drum Storage Area	High	RFI
ST-70		ST-70	I	KAFB Oil/Water Separators	High	RFI/ICM
ST-72		ST-72	II	MWSA Security Garage OWS	Medium	RFI
ST 73		ST-73	II	CERF Drain	***NE***	RFI
OT-74		OT-74	II	Pistol Range Sites	***Low***	RFI
ST-273	ST-273		III	Bldg 618 Septic Tank	Low	RFI
ST-326	ST-326		II	Waste Oil Storage Tank, Bldg 20375	Medium	RFI
ST-328		ST-328	III	Blast Overpressure Site Cesspools	***NE***	RFI
WP-339	WP-339		III	Contractor Yard West of Bldg 20423	Low	RFI
ST-340	ST-340		III	Bldgs 57001 and 57002	Low	RFI
ST-341	ST-341		III	Condensate Tank, Evap Pond, Bldg 1033	***Medium***	RFI/ICM
Potential SWMUs						
N/A		DP-67	N/A	Three Mine Shafts	Low	RFI
N/A		SS-76	N/A	Fuel Tank Burn Area	NR	SAR
N/A	SS-77		N/A	Abandoned Railroad Spur	NR	SAR
N/A	SS-78		N/A	Water Tower Soils	NR	SAR
N/A	SS-79		N/A	Bldg 381 Spill Site	NR	RFI
N/A	ST-80		N/A	Bldg 30124, Auto Hobby Shop	NR	SAR
N/A		SS-81	N/A	Bldg 907 Detention Pond and Yard	NR	SAR
N/A	SS-82		N/A	ALECS Facility	NR	SAR
N/A	SS-83		N/A	Skeet Range and Landfill Road	NR	SAR
N/A		RW-84	N/A	Manzano Burial Site	NR	SAR
N/A		OT-86	N/A	Former Small Arms Range	NR	SAR
Sites Not Regulated Under the RCRA Part B Permit						
N/A		WP-26	N/A	Sewage Lagoons & Golf Course Pond	High	LTM
N/A		RW-10	N/A	Radiation Training Sites 1-8	High	SI
N/A		RW-75	N/A	South Tijeras Rad Trench	NR	SI
N/A		RW-85	N/A	Manzano Maintenance Building	NR	SI

*Sites With NFRAP Pending
** Recommended For Removal From The Corrective Action Schedule
Bold and Italic: **Relative Risk Changed From Previous Report**

III. SUMMARY OF ACTIVITIES AND FINDINGS

A. New SWMUs and AOCs:

1. No new SWMUs or potential SWMUs were identified during this quarter.

2. SWMU SS-82, ALECS Facility (SS-82): We are awaiting FY98 funds to conduct the RFI at newly identified SWMU SS-82. We are scheduled to submit a SAP on or before December 31, 1997 and an RFI report on or before December 31, 1998. If funding is not received by October 31, 1997, submittal of the SAP may be delayed.

3. We are awaiting FY98 funds to conduct SWMU assessments at areas of concern (AOCs): Building 907 Detention Pond and Yard (SS-81), Manzano Maintenance Building (RW-85), and Former Small Arms Range (OT-86).. We are still on schedule to submit SWMU Assessment Reports (SARs) for SS-81, RW-85, and OT-86 on or before April 30, 1998.

4. AOC Manzano Burial Site (RW-84): We received surplus FY97 funds to conduct the SWMU assessment at AOC Manzano Burial Site (RW-84). A site visit was conducted with a former employee and initial geophysical survey activities were completed. During a site visit, two high potential burial locations were identified, and the method of selecting burial locations were described by the former employee. Based on the identified locations, survey boundaries were established. These geophysical surveys did not identify any burial sites at the specified sites. We are still on schedule to submit the SAR on April 30, 1998.

5. We are awaiting a determination by NMED and FY98 funds to conduct an RFI at Skeet Range and Landfill Road (SS-83) as a SWMU in the corrective action schedule of the permit. We are scheduled to submit a RFI report on or before December 31, 1998.

B. RCRA Facility Investigation (RFI):

1. Sampling and Analysis Plans (SAPs):

- SWMU 10-21:

  Trestle Site Septic Tank and Leach Field (ST-346): Began preparation of the Addendum to the Appendix III, Wasteline Sites, Phase 2 RFI, SAP for Trestle Site Septic Tank and Leach Fields (ST-346), a newly identified unit added to SWMU 10-21.

2. RFI Field Activities:

a). We initiated and completed RFI field activities, including data validation, at the following SWMUs:

- SWMU 6-30, Radioactive Burial Site 11 (RW-06) (Phase 2)

- SWMU WP-58, East Laundry, Bldg 20451 (WP-58) (Phase 2)
- SWMU RW-68, Radium Dump/Slag Piles and Cratering Area (RW-68) (Phase 1)
- SWMU SS-69, Drum Storage Area (SS-69) (Phase 1)
- SWMU OT-74, Pistol Range Sites (OT-74)(Phase 1)

3. RFI Reports:

a). We began preparation of draft RFI reports for the following SWMUs:

- SWMU 6-30, Radioactive Burial Site 11 (RW-06) (Phase 2)
- SWMU WP-58, East Laundry, Bldg 20451 (WP-58) (Phase 2)
- SWMU RW-68, Radium Dump/Slag Piles and Cratering Area (RW-68) (Phase 1)
- SWMU SS-69, Drum Storage Area (SS-69) (Phase 1)
- SWMU OT-74, Pistol Range Sites (OT-74)(Phase 1)

b). We completed and submitted the final draft Phase 2 RFI reports for the following SWMUs:

- SWMU 6-1, Landfill No. 1 (LF-01)
- SWMU 6-2, Landfill No. 2 (LF-02)
- SWMU 6-3, Landfill 3 (LF-07)
- SWMU 6-4, Landfill No. 4,5,6 (LF-08)
- SWMU 6-7, Landfill A (LF-18)
- SWMU 6-8, Landfill B (LF-15)
- SWMU 6-10, Abandoned Landfill (LF-09)
- SWMU 6-11, Fill Area SE of Sewage Lagoons (LF-44)
- SWMU 6-15, Unnamed Dump (LF-45)
- SWMU 6-16, Kirtland Fire Training Area (FT-13)
- SWMU 6-22, Lake Christian (OT-46)
- SWMU 6-24, Manzano Sewage Treatment Facility (WP-16)
- SWMU 6-29, Manzano Landfill (LF-20)
- SWMU 6-31, McCormick Ranch Range (OT-28)
- SWMU 6-32, Manzano Fire Training Area (FT-14)
- SWMU 8-13, Bldg 1001/1002 Oil/Water Separator (ST-71)
- SWMU 8-28, Oil/Water Separator, Bldg 20338 (ST-250)
- SWMU 9-4, Waste Accumulation Area, Bldg 617 (ST-276):
- SWMU 9-15, Neutralization Pit, Bldg 617 (ST-271)
- SWMU 9-16, Evaporation/Infiltration Pond, Bldg 617 (ST-272)
- SWMU 9-20, Bldg 909 Inactive Waste Accumulation Area (SS-62)
- SWMU 10-2A, Corrosion Control Shop, Bldg 482 (ST-325)
- SWMU 10-2F, H-3/H-53, Phase Dock, Bldg 1000 Floor Drains (ST-325)
- SWMU 10-2G, C-130 Maintenance Shop, Bldg 1009 Storm Sewer (ST-331)
- SWMU 10-2H, West Storm Sewer System (ST-285)
- SWMU 10-2I, East Storm Sewer System, (ST-286)

- SWMU 10-7A, Oil/Water Separator, Bldg 482 (ST-218)
- SWMU 10-7B, Holding Tank, Bldg 1037 (ST-227)
- SWMU 10-7C, Sewage Ejector Unit (ST-229)
- SWMU 10-21:
  - Septic System, Bldg 638 (ST-295)
  - Septic System Plant 1 and Bldg 37501 (ST-311)
  - Septic System, Bldg 66001 (ST-333)
  - Septic System, Bldg 66029 (ST-342)
  - Septic System, Bldgs 66000/66008 (ST-343)
  - Septic System, Bldg 66042 (ST-344)
  - Septic System, Bldg 66006 (ST-345)
- SWMU ST-64, Corps of Engineers Vehicle Maintenance Yard (ST-64)
- SWMU ST-70, KAFB Oil/Water Separators (ST-70)
- SWMU ST-72, Manzano Security Garage Oil/Water Separator (ST-72)
- SWMU ST-73, CERF Drain (ST-73)
- SWMU ST-341, Condensate Holding Tank, Bldg 1033 (ST-341)

c). We completed and submitted the final draft Phase 1 RFI reports for the following SWMUs:

- AOC SS-79, Bldg 381 Spill Site (SS-79)
- SWMU ST-328, Blast Overpressure Site Cesspool (ST-328)

C. Risk Assessment:

1. We began preparing the draft and final draft Screening-Level Ecological Risk Assessment report with internal review and discussion, and development of Human Health Risk Assessment approaches to support risk-based cleanup. We held Teaming meetings with NMED regarding risk assessment methodologies and prepared the Human Health Risk Assessment Technical Memorandum detailing the approach for the following SWMUs:

- SWMU 6-1, Landfill No. 1 (LF-01)
- SWMU 6-2, Landfill No. 2 (LF-02)
- SWMU 6-3, Landfill 3 (LF-07)
- SWMU 6-4, Landfill No. 4,5,6 (LF-08)
- SWMU 6-7, Landfill A (LF-18)
- SWMU 6-8, Landfill B (LF-15)
- SWMU 6-10, Abandoned Landfill (LF-09)
- SWMU 6-11, Fill Area SE of Sewage Lagoons (LF-44)
- SWMU 6-15, Unnamed Dump (LF-45)
- SWMU 6-16, Kirtland Fire Training Area (FT-13)
- SWMU 6-22, Lake Christian (OT-46)
- SWMU 6-24, Manzano Sewage Treatment Facility (WP-16)
- SWMU 6-29, Manzano Landfill (LF-20)
- SWMU 6-30, Radioactive Burial No. 11 (RW-06)

- SWMU 6-31, McCormick Ranch Range (OT-28)

2. We initiated risk assessments at the following SWMUs:

- SWMU RW-68, Radium Dump/Slag Piles and Cratering Area (RW-68)
- SWMU SS-69, Drum Storage Area (SS-69)

D. Corrective Measures Study (CMS):

1. Work Plans: We began preparing CMS work plans for the following SWMUs:

a). We began preparing CMS work plans for the following SWMUs:

- SWMU 6-2, Landfill No.2 (LF-02): CMS evaluation steps were begun during the third quarter for a focused CMS at SWMU 6-2. On-going activities include development of the design flows for Tijeras Arroyo and site surveys to determine the 100-year flood levels. Internal reviews and development of the design flows are on-going. The CMS will evaluate 100-year flood inundation of the landfill (including migration potential and groundwater impacts) and the adjacent reach of the Tijeras Arroyo. Flood evaluations will identify erosion and scour issues, increased migration potential, and mitigative measures which may be implemented as part of an ICM..
- SWMU ST-70, KAFB Oil/Water Separators, Holding Tank and Fuel Filter Drying Rack (Bldg 377)(ST-70)(Former ST-210)

2. Study: No activity.

3. CMS Report: No activity.

E. Voluntary and Interim Corrective Measures (ICMs):

1. ICM Work Plans:

a). We began preparing ICM work plans for the following SWMUs:

- SWMU ST-64, U.S. Army Corps of Engineers Vehicle Maintenance Yard (Bldg 20212)(ST-64)(Former ST-337)
- SWMU SS-69, Drum Storage Area (SS-69)
- SWMU ST-70, Oil Water Separator, Holding Tank, and Fuel Filter Drying Rack (Building 377)(ST-70)(Former ST-210)
- SWMU WP-58, East Laundry (Building 20451)(WP-58)

b). We submitted ICM work plans for the following SWMUs:

- SWMU 10-2F, H-3/H-53 Phase Dock, Building 1000 Storm Sewer (ST-325)
  2G, C-130 Maintenance Shop, Bldg. 1009 Storm Sewer (ST-231)

2H, West Storm Sewer System (ST-285)
2I, East Storm Sewer System (ST-286)

- SWMU 10-21, Building 638 Septic System (ST-295)
  Building 37501 and Plant 1 (ST-311)
- SWMU ST-341, Condensate Holding Tank and Evaporation Pond (ST-341)

2. ICM Field Work: We conducted ICM field work at the following SWMUs:

- SWMU 6-A, Radioactive Burial 7 (RW-21): We completed revegetation of the site.
- SWMU 6-24, Manzano Sewage Treatment Facility (WP-16): We completed revegetation of the site.
- SWMU 6-32, Manzano Fire Training Area (FT-14): We completed revegetation of the site

(The sites were seeded with a mixture of native grasses and shrubs. Revegetation success is considered very good, with significant growth of grasses apparent by September.

- SWMU 10-2F, H-3/H-53 Phase Dock, Building 1000 Storm Sewer (ST-325)
  2G, C-130 Maintenance Shop, Bldg. 1009 Storm Sewer (ST-231)
  2H, West Storm Sewer System (ST-285)
  2I, East Storm Sewer System (ST-286)

(The objective of this ICM was to remove potentially hazardous waste-contaminated sediment from the storm sewer system as identified during the RFI. Field work was conducted in September and consisted of high pressure water flushing of the storm sewer lines. The effluent generated by the flushing was contained in 21,000-gallon tanks. All sediment generated during the cleaning effort was contained in lined roll-off bins. At the completion of the ICM, both waste streams were sampled and analyzed for waste disposal criteria.)

- SWMU 10-21, Building 638 Septic System (ST-295)
  Building 37501 and Plant 1 (ST-311)

(The ICM objective was to reduce the risk to human health and the environment posed by hydrocarbon contamination. The septic tank contents were removed by a vacuum truck an hauled to the City of Albuquerque Publicly Owned Treatment Works for disposal. The septic tank, leach field lines, and petroleum hydrocarbon-contaminated soil was excavated and stockpiled on plastic sheeting. The stockpiled soil was sampled and analyzed for waste disposal criteria.)

- SWMU ST-341, Condensate Holding Tank and Evaporation Pond (ST-341)

(We conducted a soil gas survey, soil gas permeability testing, and in-situ respiration testing. The objective of the ICM is to determine whether bioventing is a feasible remediation approach for hydrocarbon contaminated sites at Kirtland AFB. Preliminary results indicate that microbial degradation of hydrocarbons is occurring at SWMU ST-341.)

3. ICM Reports: We submitted ICM reports for the following SWMUs:

- SWMU ST-66, Trestle Facility (ST-66)

F. Other Investigations and Activities:

1. Post Closure Care at WP-26: All activities at the Sewage Lagoons and Golf Course Main Pond are reported in the appropriate sections of this report. We are still awaiting a determination by NMED regarding the closure status of this unit.

2. Site Investigation at OT-10, Radiation Training Sites: No Activity.

3. Groundwater Monitoring: We completed the fifth round of sampling under the long-term groundwater monitoring (LTGWM) program on July 2, 1997. We completed the sixth round of sampling under the LTGWM program on September 30, 1997. We submitted the LTGWM Report for the fourth sampling quarter (February 1, 1997 - April 30, 1997) on July 3, 1997. Sample collection at the two Sewage Lagoon wells has been eliminated from the LTGWM program, starting with the fifth round, due to lack of saturated screen intervals. The two important changes in the the sampling program in the fifth sampling quarter are: (1) coliforms analyses will no longer be performed for any sites and (2) laboratory reporting for the Groundwater System Monitoring Plan (GSMP) at the Kirtland landfill (LF-268) will be limited to the 25 analytes listed on Table 1, Appendix A, of the New Mexico Solid Waste Management Regulations (NMSWMR) for which additional background data are required. A summary of draft fifth round results is presented below.

a). At SWMU 6-1, selenium (1.1 to 1.9 ug/L), barium (93.3 to 100 ug/L) and sodium ranging from 18,600 to 21,200 ug/L were detected in all four wells. Chromium at 13.4 ug/L was detected at KAFB-0111. Iron was detected in well KAFB-0111 (67.7 ug/L) and KAFB-0114 (127 ug/L). Arsenic (1.1 to 1.6 ug/L) was detected in all wells except KAFB-0114. Tetrachloroethene and trichloroethene were detected in KAFB-0114 at 0.6 ug/L and 0.3 ug/L, respectively. No other VOCs were detected at or above RLs. No pesticides or chlorinated herbicides were detected in any of the wells. Some inorganic analytes were detected. All detected concentrations were below applicable NMSWMR health-based groundwater standards and the Safe Drinking Water Act (SDWA) MCLs for radioactivity.

b). At SWMU 6-2, barium (45.1 to 62.6 ug/L), selenium (3.7 to 4.2 ug/L) and sodium (23,200 to 26,700 ug/l) were detected in all four wells. Arsenic (1.1 to 1.2 ug/L) was detected in all wells except KAFB-0218. Iron (138 ug/L) was detected at well 0215. Chromium (5.4 ug/L) was detected at well 0214. No VOCs, pesticides or chlorinated herbicides were detected, but traces of some inorganic analytes were detected. All detected concentrations were below applicable NMSWMR health-based groundwater standards. Gross beta radioactivity in KAFB-0214 (8.8 mrem/yr) and KAFB-0216 (4.6 mrem/yr) exceeded the SDWA MCL of 4 mrem/yr.

c). At SWMU 6-4, arsenic (1.3 to 4.8 ug/L), barium (45.8 to 143 ug/L), selenium (5.2 ug/L to 28.4 ug/L) and sodium ranging from 21,400 to 31,900 ug/L were detected in all six wells. Trichloroethene (2.4 ug/L) was detected in the sample from TJA-2. No pesticides or chlorinated herbicides were detected in any of the wells. Traces of some inorganic analytes were detected. All detected concentrations were below applicable NMSWMR health-based groundwater standards with the exception of the selenium detected in wells 0310 and TJA-2 at

concentrations of 28.4 and 15.3 ug/L, respectively. The NMSWMR health-based groundwater standard for selenium is 10 ug/L. Gross beta radioactivity in KAFB-0310 (4.1 mrem/yr) and KAFB-0311 (4.4 mrem/yr) exceeded the SDWA MCL of 4 mrem/yr. Note: At the time of this report VOC data was in the validation process and is potentially subject to minor revision.

d). At SWMU 6-16, arsenic (2.6 ug/L), barium (125 ug/L) and sodium (19,100 ug/L) were detected in well KAFB-0417. No VOCs were detected, but traces of some inorganic analytes were detected. No pesticides or chlorinated herbicides were detected. All detected concentrations were below applicable NMSWMR health-based groundwater standards and the SDWA MCLs for radioactivity.

e). At SWMU 6-22, arsenic (2.4 to 3.2 ug/L), barium (28.1 to 127 ug/L), selenium (3.9 to 13 ug/L) and sodium (97,700 to 116,000 ug/L) were detected in all three wells. Manganese was detected in KAFB-1902 (165 ug/l) and KAFB-1903 (232 ug/L). Iron was detected in KAFB-1903 (12,100 ug/L). No pesticides, chlorinated or herbicides were detected in any wells. Other inorganic parameters were detected in the wells, including fluoride (3.9 to 4.2 mg/L) and sulfate(330 mg/L). All detected concentrations were at or below applicable NMSWMR health-based groundwater standards, with the exception of fluoride concentrations, which exceeded the NMSWMR health-based standard of 1.6 mg/L in all three wells, and selenium (13 ug/L), which exceeded the NMSWMR health-based standard of 10 ug/L at KAFB-1902. NMSWMR aesthetic standards for iron and manganese of 300 ug/L and 50 ug/L, respectively, were exceeded at KAFB-19KAFB-1903 (iron, 12,100 ug/L, manganese, 232 ug/L) and KAFB-1902 (manganese, 165 ug/L). Sulfate (330 mg/L) in KAFB-1902 also exceeded the NMSWMR aesthetic groundwater standards of 250 mg/L. Gross alpha radioactivity in KAFB-1903 (16 pCi/L) exceeded the SDWA MCL of 15 pCi/L. Gross beta radioactivity in KAFB-1902 (8.7 mrem/yr), KAFB-1903 (9.7 mrem/yr) and KAFB-1904 (9.7 mrem/yr) exceeded the SDWA MCL of 4 mrem/yr.

f). At SWMU 6-31, arsenic (1.6 to 3.7 ug/L), barium (50.6 to 92.3 ug/L), selenium (2.6 to 3.7 ug/L) and sodium (19,700 to 27,800 ug/L) were detected in all five wells sampled. Chromium was detected in KAFB-1004 at a concentration of 5.9 ug/L. No explosives, pesticides or chlorinated herbicides were detected in any wells. Traces of some inorganic analytes were detected. All detected concentrations were below applicable NMSWMR health-based groundwater standards. Gross beta radioactivity in wells KAFB-1002 (4.7 mrem/yr), KAFB-1004 (4.3 mrem/yr) and KAFB-1006 (4.0 mrem/yr), met or exceeded the SDWA MCL of 4 mrem/yr.

g). At Tijeras Arroyo, barium (38 to 157 ug/L), selenium (3.4 to 2.8 ug/L) and sodium (22,600 to 30,000 ug/L) were detected in both wells sampled. Arsenic (2.3 ug/L) was detected in KAFB-0902. No VOCs were detected, but traces of some inorganic analytes were detected. No pesticides or chlorinated herbicides were detected in the wells. All concentrations were below applicable NMSWMR health-based groundwater standards and the SDWA MCLs for radioactivity.

h). At the Golf Coarse Main Pond, no VOCs were detected in KAFB-0608 or KAFB-0610. Tricloroethene was detected in KAFB-0609 at 0.8 ug/L. Nitrate-N concentrations

ranged from 16 to 23 mg/L for all three wells. Nitrate-N concentrations in all three wells exceed the NMSWMR health-based groundwater standard of 10 ug/L.

4. Base-Wide Background and Hydrogeology: Sandia National Laboratories (SNL) and Kirtland AFB received a request for supplemental information from the NMED on September 24, 1997. The NMED formally approved the background concentrations on which the OB and SNL reached consensus.

5. TCE Abatement: We continued to analyze samples from the LTGWM Program for TCE. SNL conducted neutron logging of KAFB monitoring wells in the area of the perched zone.

6. Management Action Plan Update: The draft Management Action Plan (MAP) was submitted to the USACE and Kirtland AFB for review on September 29, 1997. The Final MAP is scheduled for submittal in December 1997. The MAP addresses requirements stipulated by the Air Force and also satisfies RCRA Corrective Action Plan requirements. It will include both IRP and ECP sites and the schedule and cost to complete information from present to program closure.

7. No Further Action (NFA): No activity.

G. Program and Budget: The FY99 and FY00 initial ERA and ECP programs were developed for presentation to the RAB and regulators. The FY99 ERA budget is $7,995,000, and the ECP budget is $3,450,000. The FY00 ERA budget is $11,675,000, and the ECP budget is $3,385,000. The cost and schedules to complete have also been developed for presentation. We are currently looking to have all current sites closed or final corrective measures in place by 2003.

H. Restoration Advisory Board (RAB): The RAB meeting was held on August 20, 1997, in conjunction with the Department of Energy's (DOE) Citizen Advisory Board (CAB). The CAB's issues committee is still looking at ways to merge the two boards and determine if the issue should be formally presented to the CAB. The RAB was provided with a presentation on some of the ICMs conducted during this quarter. Newly identified sites were discussed, as was the proposed NMED Fee Schedule.

IV. SUMMARY OF PROBLEMS

A. New SWMUs and AOCs: No problems encountered.

B. RCRA Facility Investigation: No problems encountered.

C. Risk Assessment: No problems encountered.

D. Corrective Measures Study (CMS): No problems encountered.

E. Voluntary and Interim Corrective Measures: The ICM at SWMU SS-69 was delayed while the contractor sought exemption from the AFI 40-201 requirement for a separate NRC license.

F. Other Investigations and Activities:

1. Post-Closure Care at WP-26: All four wells are now non-functioning due to dropping groundwater levels.

2. Site Investigation at OT-10: No problems encountered.

3. Groundwater Monitoring: No problems encountered.

4. Base-Wide Background and Site-Wide Hydrogeological Studies: We are concerned that Kirtland AFB was not included in the distribution of NMED's comments on this joint DOE/USAF study. We are also concerned that NMED has accepted the background levels which SNL and the NMED DOE Oversight Bureau (OB) reached consensus on.. This consensus was based more on a desire to move on with the corrective action schedule rather than on sound science and statistics. This was a jointly funded study, and Kirtland AFB is not yet ready to accept the OB levels. We feel a detailed multi-agency, multilevel review of the OB background study and associated methodology similar to that given the SNL/KAFB study is warranted. We will continue to compare analytical results with the SNL-DOE/OB background levels; however, we will also make comparisons to UTLs from some of the other background studies that have been conducted as well as site specific background measurements. We will also reference EPA Region 6 Human Health Risk Screening Levels as we continue with our community-based, risk-based approach to RCRA corrective action.

5. TCE Abatement: No problems encountered.

6. Management Action Plan Update: No problems encountered.

7. No Further Action (NFA): No problems encountered.

G. Budget & Program: No problems encountered.

H. Restoration Advisory Board (RAB): Due to the lack of funds as a result on continuing resolution authority, lack of agenda items, and lack of interest, the next RAB meeting will be postponed.

V. PROJECTED WORK FOR THE NEXT REPORTING QUARTER

A. New SWMUs and AOCs:

2. AOC RW-84, MWSA Burial Site: We will start planning additional survey activities to identify burial site locations.

1. AOC RW-75: We will perform final site restoration to include seeding.

2. SWMU OT-74: We will initiate RFI field activities on July 7, 1997 and complete them by July 28, 1997. We will submit the internal draft RFI report.

B. RCRA Facility Investigation

1. Sampling and Analysis Plans (SAPs): We will submit SAPs for the following SWMUs:

- SWMU 10-21, Trestle Site Septic Tank and Leach Field (ST-346)

2. RFI Field Activities: We will conduct RFI field activities at the following SWMUs:

- SWMU 10-21, Trestle Site Septic Tank and Leach Field (ST-346)

3. RFI Reports: We will submit the final draft RFI reports for the following SWMUs:

- SWMU 6-30, Radioactive Burial 11 (RW-06)
- SWMU WP-58, East Laundry (WP-58)
- SWMU RW-68, Radium Dump/Slag Piles and Cratering Area (RW-68)
- SWMU SS-69, Drum Storage Area (SS-69)
- SWMU OT-74, Pistol Range Sites (OT-74)

C. Risk Assessment:

1. We will submit the Human Health Risk Assessment Technical Memorandum to NMED for approval. Upon receipt of NMED's approval, we will complete the draft and final draft Human Health Risk Assessment. We will conduct further discussions with NMED to determine requirements for completing ecological risk assessment at identified sites. Based on these meetings, recommendations will be made regarding No Further Action or additional work which will assist with quantitative assessment of ecological risks for the following SWMUs.

- SWMU 6-1, Landfill No. 1 (LF-01)
- SWMU 6-2, Landfill No. 2 (LF-02)
- SWMU 6-3, Landfill 3 (LF-07)
- SWMU 6-4, Landfill No. 4,5,6 (LF-08)
- SWMU 6-7, Landfill A (LF-18)
- SWMU 6-8, Landfill B (LF-15)
- SWMU 6-10, Abandoned Landfill (LF-09)
- SWMU 6-11, Fill Area SE of Sewage Lagoons (LF-44)
- SWMU 6-15, Unnamed Dump (LF-45)
- SWMU 6-16, Kirtland Fire Training Area (FT-13)
- SWMU 6-22, Lake Christian (OT-46)
- SWMU 6-24, Manzano Sewage Treatment Facility (WP-16)

- SWMU 6-29, Manzano Landfill (LF-20)
- SWMU 6-30, Radioactive Burial No. 11 (RW-06)
- SWMU 6-31, McCormick Ranch Range (OT-28)

2. Risk assessments will be conducted as part of the CMS at the following SWMUs:

- SWMU ST-64, U.S. Army Corps of Engineers Vehicle Maintenance Yard (ST-64)(Former ST-337)
- SWMU RW-68, Radium Dump/Slag Piles and Cratering Area (RW-68)

D. Corrective Measures Study (CMS)

1. CMS Work Plan: We will submit final draft CMS work plans for the following SWMUs:

- SWMU ST-64, U.S. Army Corps of Engineers Vehicle Maintenance Yard (ST-64)(Former ST-337)
- SWMU RW-68, Radium Dump/Slag Piles and Cratering Area (RW-68)

2. Study We will initiate or continue the CMS at the following SWMUs:

- SWMU 6-2, Landfill No. 2 (LF-02): Development of the 100-year design flows at SWMU 6-2 are currently being evaluated based on applicable models and local stakeholder guidance. Review of previous model results has delayed the overall CMS design effort which is currently scheduled for completion during the first quarter 1998. This development will not result in any problems with the CMS design efforts.
- SWMU RW-68, Radium Dump/Slag Piles and Cratering Area (RW-68): Includes installation of an on-site and background monitoring well and 0collection of soil verification samples.

3. CMS Report: No activity planned.

E. Voluntary and Interim Corrective Measures (ICMs):

1. ICM Work Plans: We will submit final draft ICM work plans for the following SWMUs:

- SWMU WP-58, East Laundry (WP-58)
- SWMU ST-64, U.S. Army Corps of Engineers Vehicle Maintenance Yard (ST-64)(Former ST-337)
- SWMU ST-70, KAFB Oil/Water Separators (ST-70)(Former ST-210)
- SWMU SS-69, Drum Storage Area (SS-69)

2. ICM Field Work: We will conduct ICM field work at the following SWMUs:

- SWMU 6-2, Landfill No. 2 (LF-02)
- SWMU 10-21, Bldg 638 Septic System (ST-295) and Bldg 37501 Plant 1 (ST-311)
- SWMU WP-58, East Laundry (WP-58)
- SWMU ST-64, U.S. Army Corps of Engineers Vehicle Maintenance Yard (ST-64)(Former ST-337)
- SWMU ST-70, KAFB Oil/Water Separators (ST-70)(Former ST-210)
- SWMU SS-69, Drum Storage Area (SS-69)
- SWMU ST-341, Condensate Holding Tank and Evaporation Pond (ST-341): Completion of the bioventing feasibility characterization program. The final phase of the characterization program includes soil sampling in the hydrocarbon plume and analyses for nutrient content and microbial populations. We will begin the pilot study phase of the program.

3. ICM Reports: No activity planned.

F. Other Investigations and Activities:

1. Post-Closure at WP-26: No activity planned.

2. Site Investigation at OT-10, Radiation Training Sites: No activity planned.

3. Groundwater Monitoring: We concluded the fifth round of sampling under the LTGWM and submitted the draft report. The issuance of the LTGWM Annual Report has been postponed until early 1998 in order to evaluate a minimum of four quarters of data for each site, specifically those sites and wells added to the program after the second quarter. Sampling for the seventh round of sampling is scheduled for December, 1997

4. Base-Wide Background, Hydrogeology.: No activity planned.

5. TCE Abatement: We will initiate field activities to include installing the WYO 3 nested groundwater monitoring

6. Management Action Plan Update: We will submit the final copy of the MAP in December 1997.

7. No Further Action (NFA): No activity planned.

G. Program and Budget: No activity planned.

H. Restoration Advisory Board (RAB): We will send a letter to announce postponement of the next RAB meeting to January, 1998.

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